

The 12 Steps to a Quadratic Problem

1. Find out if it **opens Up/Down**
2. Find the **Maximum/ Minimum**
3. Find the **Axis of symmetry** (an x value)
4. Find the **Coordinate of the Vertex** (use the x value in #3 above to get the y value)
5. Find the **X and Y intercepts**
 - a. Y intercept plugs 0 in for X
 - b. X intercepts plugs 0 in for Y (if you find them, you will have found the solutions)
6. Identify the **parts of the equation** (even if one is missing)
 - a. Quadratic term = the X^2 term
 - b. Linear term = the X^1 term
 - c. Constant term = the number
7. Find the solution(s) using: **GFC, Reverse FOIL, or Grouping,**
8. Find the solution(s) using the **quadratic equation**
9. Identify **how many solutions** there (real or imaginary)
10. Answer whether the solutions are **real or imaginary**
11. Identify **the range on the X axis of the solutions** if they are imaginary
12. Draw the **Graph**